Appl. No. 09/579,371
Amdt. Dated 02/03/2004
Reply to Office Action of 10/04/2003

APP 1211

REMARKS/ARGUMENTS

Claims 12 and 30 were objected to because of informalities and claim 30 was also objected to, 35 USC 112, second paragraph, as indefinite. In response thereto applicants have amended claim 12 to insert the period at the end of the claim and have amended claim 30 as suggested by the Examiner and also to recite "a" and not "the" second point in the network, as pointed out by the Examiner. Withdrawal of any objection to claims 12 and 30 is accordingly requested. Since claim 30 was indicated by the Examiner as allowable if amended to overcome the Section 112 rejection, its reconsideration and allowance are also requested.

Applicants note with appreciation that the Examiner has indicated that claims 3-8, 10-14, 17-23, 25, 28-29, and 34-35 would be allowable if rewritten in independent form to include all of the limitations of the base and any intervening claims. Accordingly, applicants have amended claims 3, 10, 17, 21, 25, and 28 to be independent claims. Claims 4 and 5 are dependent on now independent claim3; claims11, 12, 13, and 14 are dependent on now independent claims 10; claims 18 and 19 are dependent on now independent claim 17; claims 22 and 23 are dependent on now independent claim 21; and claim 29 is dependent on now independent claim 28. Accordingly, reconsideration and allowance of claims 3-5, 10-14, 17-19, 21-23, and 28-29 are therefore respectfully requested.

Dependent claims 6, 7, 8, 20, 34, and 35 which were also indicated as allowable if rewritten in independent form have not been so amended but are submitted to be allowable together with their parent claims, as discussed further below.

Claims 9, 37, and 41 have been cancelled to reduce the number of claims that need to be considered, and claim 32 has been cancelled and its subject matter incorporated into its prior parent claim31, with dependent claims 33 –36 being amended to depend from the now amended claim 31.

Claims 1-2, 15-16, 26-27, 31-33, and 36-40 stand rejected, 35 US 102(e) as anticipated by Kikuchi et al patent 6,614,763, Sept. 3, 2003, based on an application filed October 19, 1999, and claim 24 stands rejected, 35 USC 103 (a) as unpatentable over Kikuchi et al in view of Rochford et al patent 6,487,604. In response thereto applicants are submitting a Rule 131 Declaration by Richard C. Lau, one of the co-inventors of this application, establishing the conception and successful reduction to practice of this invention prior to the October 19, 1999 filing date of the Kikuchi et al patent.

Even though applicants have accordingly removed the Kikuchi et al patent as a reference against the present application, applicants desire to point out that the Kikuchi et al disclosure is neither anticipatory nor suggestive of applicants' invention. Applicants respectfully submit that the Examiner has erred in considering that the probing packets which form the basis of the Kikuchi et al system are the same as applicants' frames. Further the Kikuchi et al probing packets and applicants' frames are used for different

- Appl. No. 09/579,371
Amdt. Dated 02/03/2004
Reply to Office Action of 10/04/2003

APP 1211

purposes. Kikuchi et al utilize their probing packets to provide an estimation of available bandwidth in a network. In contrast, applicants' invention provides a measurement of several aspects of actual network performance, such as packet loss and utilization.

The Kikuchi et al system is based on "the sending and reception of a small number of probing packets via the network" (column 1, lines 59-60); this has no relevance to applicants' invention. In the Kibuchi et al system the probing packets are thus actively inserted into the traffic stream, similar to other active methods such as the well known network utility "ping". In contrast, in applicants' invention a frame is a passively constructed interpretation and mapping of the continuous sequence of user traffic packets. Since frames are user traffic, they are not sent by a "sender" or terminated in a "receiver" in the manner of probing packets; rather they are sent and received by unspecified end users beyond the network and are simply monitored, i.e., the information captured, at specific points. The concepts of "probing packets", as taught and disclosed by Kikuchi et al, and "frames", as utilized in applicants' invention, are thus fundamentally different (active vs. passive), and the methods utilizing these concepts for purposes of network monitoring are necessarily and fundamentally different as well.

In the Kikuchi et al arrangement the probing packets can not be used to determine exact packet loss, since the timing and sequence of probe packet insertion can not be known exactly. For this and other reasons, existing active measures, such as "ping", cannot measure exact packet loss either. In applicants' invention, however, frames can be used for precise packet loss measurements, since the exact sequence of the framing packets is known to the measuring algorithm at both the source and sink ends of the system. Applicants' use of IP sequence numbers to uniquely identify packets enables this result.
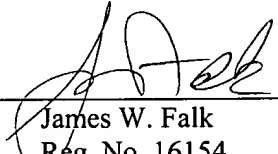
Accordingly, the Kikuchi et al system using probing packets can only provide an educated guess as to available bandwidth. The algorithms for calculating the educated guess are the focus of the Kikuchi et al disclosure and teaching, not the probing packets themselves. In fact, it is clear that Kikuchi et contemplate that existing utilities, such as "ping", can be used as the probing packets (column 3, lines 35-38). In contrast, applicants' invention involves algorithms and the frame structures to measure performance metrics directly from actual user traffic with the result that actual utilized bandwidth is determined with no further estimation required. The probing packets and the algorithms described by Kikuchi et al do not and cannot provide this exact measurement of user traffic, since they rely exclusively on additional packets artificially inserted into traffic, rather than the user traffic itself.

Accordingly, reconsideration and allowance of claims 1, 2, 6, 7, 8, 15, 16, 20, 24, 25, 26, 27, 31, 33, 34, 35, 36, 38, 39, and 40, together with claims 3-5, 10-14, 17-19, 21-23, 28-29, and 30 are therefore respectfully requested.

Appl. No. 09/579,371
Amdt. Dated 02/03/2004
Reply to Office Action of 10/04/2003

APP 1211

It is believed that this application is now in condition to be passed to issue, and such action is also respectfully requested. However, if the Examiner believes it would in any way expedite the prosecution of this application, the Examiner is invited to telephone applicants' attorney at the number set forth below.

Respectfully submitted,

Telcordia Technologies, Inc.

By _____

James W. Falk
Reg. No. 16154
Tel.: (732) 699–4465

Attachment (1):
Declaration under 37 CFR 1.131